UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,280	07/08/2003	Gilbert Wolrich	10559-139002	8226

			EXAMINER
20985	7590	10/28/2005	NGUYEN, PHUOC H

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ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/615,280	WOLRICH ET AL.
	Examiner	Art Unit	
	Phuoc H. Nguyen	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>8/2/0;5/13/05;1/05/05</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-35 and 37-44</u> is/are pending in the application.

    4a) Of the above claim(s) <u>29-35 and 37-44</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-19 and 22-28</u> is/are rejected.

7) ☒ Claim(s) <u>20 and 21</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/13/05</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to Amendment filed January 5, 2005.

2.   Claims 1-35 and 37-44 are pending in this application. Claims 1, 16, and 22 are

independent claims.   In Amendment, claim 36 is cancelled and claims 29-35 and 37-44 are

withdrawn from consideration.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-19 and 22-28 have been considered but

are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 1-12, 16-19, and 22-26 are rejected under 35 U.S.C. 103(a) as being obvious over

Kahle et al. (Hereafter, Kahle) U.S. 6,212,542 in view of Chang et al. (Hereafter, Chang) U.S.

6,338,078 in further view of Vishkin U.S. 6,463,527.

6.   Regarding claims 1, 16, and 22, Kahle et al. disclose in Figures 1-4 a method for data

processing (e.g. abstract and Figure 4) comprises: receiving data at a processor having multiple

engines collectively providing multiple program threads (e.g. col. 4 lines 26-28 and Figure 4 and

Figure 6) and operating on the data with a plurality of program threads to affect processing of the

packets (e.g. abstract, Figure 4, and col. 10 lines 25-56). Kahle does not disclose the data is

network packets and each of the multiple engines having multiple program counters for different

program threads provided by the respective engine.

However, Chang et al. disclose in the same field of data processing a network packet is

receive from the network as network packets (e.g. abstract). In addition, Vishkin discloses in

Figures 3 each of the multiple engines having multiple program counters for different program

threads provided by the respective engine (e.g. abstract lines 7-14, col. 1 lines 10-25, col. 2 lines

30-40, col. 3 lines 55-65, and col. 7 lines 35-40).

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention is made to implement the processor in network as seen in Chang et al.'s

invention and to add each of the multiple engines having multiple program counters for different

program threads provided by the respective engine as seen in Vishkin's invention into Kahle et

al.'s invention because it would enable to efficiently processing network packets using multiple

threads or instructions within the processor (e.g. col. 2 lines 30-40, col. 3 lines 55-65, and col. 7

lines 35-40).

7.   Regarding claims 2-3 and 23, Kahle further teaches using at least one program thread to

inspect a header portion of the packet, and signaling by the at least one program thread that a

packet header has been processed (col. 11, lines 29-33).

8.   Regarding claims 4 and 24, Kahle further teaches the plurality of program threads are

scheduler program threads to schedule task orders for processing and processing program threads

that process packets in accordance with task (e.g. instructions) assignments assigned by the

scheduler program threads (col. 11, lines 35-41).

9.   Regarding claims 5 and 25, Kahle further teaches each program thread writes a message

to a register that indicates its current status (col. 11, lines 26-34).

10.   Regarding claims 6 and 19, Kahle further teaches interpretation of the message is fixed

by a software convention determined between a scheduler program thread and processing

program threads called by the scheduler program thread (Figure 4).

11.   Regarding claims 7-8, Kahle further teaches status messages include busy, not busy, not

busy but waiting; and a status message includes not busy, but waiting and wherein the status of

not busy, but waiting signals that the current program thread has completed processing of a

portion of a packet and is expected to be assigned to perform a subsequent task on the packet

when data is made available to continue processing of the program thread (col. 11, lines 23-34;

col. 14, lines 45-52., and col. 15, lines 49-60).

12.   Regarding claims 9, 18, and 26, Kahle further teaches the register is a globally accessible

register that can be read from or written to by all current program threads (col. 14, last and col.

19 lines 18-24), paragraph 5 col. 14).

13.   Regarding claims 10 and 17, Kahle further teaches scheduler program threads can

schedule any one of a plurality of processing program threads to handle processing of a task (col.

14, lines 16-20).

14.   Regarding claim 11, Kahle further teaches the scheduler program thread writes a register

with an address corresponding to a location of data for the plurality of processing program

threads (col. 20, lines 14-32).

15.   Regarding claim 12, Kahle further teaches a selected one of the plurality of processing

program threads that can handle the task reads the register to obtain the location of the data (col.

27, lines 55-63).

Double Patenting

16.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.
Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686
F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA
1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
         A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to
overcome an actual or provisional rejection based on a nonstatutory double patenting ground
provided the conflicting application or patent is shown to be commonly owned with this
application. See 37 CFR 1.130(b).
         Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37
CFR 3.73(b).

17.   Claims 1-15 and 22-28 are rejected under the judicially created doctrine of obviousness-

type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,625,654.

Although the conflicting claims are not identical, they are not patentably distinct from each other

because:

18.   Regarding claim 1 of U.S. Patent No. 6,625,654 contains every element of claims 1, 4,

and 10 - 13 of the instant application and as such anticipates claims 1, 4, and 10 - 13 of the

instant application.

19.   Regarding claims 2-16 of U.S. Patent No. 6,625,654 contains every element of claims 2-

3, 5-9, 14-15, and 22-28 respectively of the instant application and as such anticipates claims 2-

3, 5-9, 14-15, and 22-28 of the instant application.

Allowable Subject Matter

20.   Claims 20-21 are objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

Conclusion

21.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Guilford et al. U.S. Patent No. 6,671,827

Gillespie U.S. Patent No. 6,269,391

Wilkinson, III et al. U.S. Patent No. 6,934,951

Hooper et al. U.S. Patent No. 6,944,850

Irwin U.S. Patent No. 6,393,026

Hooper et al. U.S. Patent No.6,952,824

22.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Phuoc H. Nguyen whose telephone number is 571-272-3919.

The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuoc H Nguyen
Examiner
Art Unit 2143

October 25, 2005